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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
SALL, EL HADJI MALICK	

ART UNIT	PAPER NUMBER
2157	

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/015,097	HAINES, ROBERT E.	
	Examiner	Art Unit	
	El Hadji M. Sall	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 March 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to the amendment filed on March 25, 2005. Claims 1-20 are pending. Claims 1-20 represent dynamic mapping of wireless network devices.

2. Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:
Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 1 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. Specifically, representations of a plurality of network devices depicting locations of the network devices relative to a reference point is a data structure per se, and because of this is not statutory.

3. Claim Rejections - 35 USC § 102

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the

requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being unpatentable over Ogier et al. U.S. 6,84,091.

Ogier teaches the invention as claimed including mobile ad hoc extensions for the Internet.

As to claim 1, Ogier teaches a dynamic map of a wireless network, comprising: representations of a plurality of network devices depicting locations of the network devices relative to a reference point, wherein the locations of the representations are adapted for updating without the need for manual intervention (column 7, lines 17-22, Ogier discloses each mobile node 18 may move from one location to another location within the same subnet 10 or to another subnet 20 (i.e. subnet 10 or 20 can be equated as to "reference point", where locations of "network device" or mobile node 18 are depicted relative to "reference point" 10); see abstract).

As to claim 2, Ogier teaches the dynamic map of claim 1, wherein at least one of the network devices or the reference point is a transient device of the wireless network (column 2, lines 51-54, Ogier discloses special routers that implement both the IPv4

and IPv6 protocols in a "dual-stack" configuration are required to support the coexistence and transition phase).

As to claim 3, Ogier teaches the dynamic map of claim 1, further comprising representations of logical connectivity of the plurality of network devices (figure 1).

As to claim 4, Ogier teaches the dynamic map of claim 1, wherein the representations of the plurality of network devices comprise an ordered list of a set of the network devices capable of providing a service requested by another network device of the wireless network, and wherein the order of the list is indicative of a proximity of each of the plurality of network devices to the network device requesting the service (column 10, lines 23-48, Ogier discloses... A list of children nodes of node i, denoted children_i(u). c. The sequence number of the most recent link-state update originating from node u received by node i, denoted sn_i(u)...).

As to claim 5, Ogier teaches the dynamic map of claim 1, further comprising:

a representation of a first network device of the plurality of network devices that is requesting a service on the wireless network (column 1-2, lines 65-67 to 1-4, Ogier discloses...Using TCP/IP, the Web browser sends HTTP (Hypertext Transport Protocol) requests to the Web server...; column 43, lines 49-52, Ogier discloses Under some circumstances, numerous clients 12 (e.g., 200), may arrive within range of the subnet 10 simultaneously, each attempting to establish a connection with the server 40); and

a representation of a second network device of the plurality of network devices that is capable of providing the requested service (column 5, lines 52-57, Ogier discloses although represented as a single server 40, other embodiments can have a group of interconnected servers. The data on the server 40 are replicated on one or more of these interconnected servers to provide redundancy in the event that a connection to the server 40 cannot be established);

wherein the representation of the first network device is highlighted to differentiate it from representations of other network devices (column 5-6, lines 58-67 to 1-7, Ogier discloses...Examples of devices that can participate as a node 18 in the subnet 10 include laptop computers, desktop computers, wireless telephones, and personal digital assistants (PDAs), network computers, television sets with a service such as Web TV, client computer systems, server computer systems...); and

wherein the representation of the second network device is highlighted to differentiate it from representations of other network devices that are incapable of providing the requested service (column 1, lines 65-67, Ogier discloses After establishing an Internet connection, the client user launches the Web browser to communicate with a Web server on the Internet).

As to claim 6, Ogier teaches the dynamic map of claim 5, further comprising:

a representation of at least one third network device of the plurality of network devices that is capable of providing the requested service (column 1, lines 50-55, Ogier discloses Communications on the Internet is packet-switched; that is, the information that is to pass from one communications entity to another is broken into packets that are individually passed from router to router until the packets arrive at their destination).

wherein the representation of the at least one third network device is highlighted to differentiate it from representations of other network devices that are incapable of providing the requested service (column 2, lines 30-39, Ogier discloses... every router forwards every update to all neighboring routers, even if only a small subset of the neighboring routers need to receive it);

As to claim 7, Ogier teaches the dynamic map of claim 6, wherein the second network device is a device most closely matching a selection criteria to provide the requested service and wherein the highlighting of the representation of the second network device further differentiates it from a representation of each third network device (column 32, lines 1-3, Ogier discloses any route taken by packets sent by the IP

host A 12 to the sever 40 on the Internet 30 necessarily traverses Ipv4 infrastructure to reach the gateway 16).

As to claim 8, Ogier teaches the dynamic map of claim 5, further comprising:

a representation of a path between the first network device and the second network device (figure 4).

As to claim 9, Ogier teaches the dynamic map of claim 8, wherein the representation of the path between the first network device and the second network device accounts for obstructions between the first network device and the second network device (abstract, Ogier discloses...a queuing mechanism that can update information upon resuming interrupted communications between nodes...).

As to claim 10, Ogier teaches the dynamic map of claim 8, further comprising: a representation of a path between the first network device and each of the third network devices (column7, lines 54-57, Ogier discloses Each router 14 in the subnet 10 is responsible for detecting, updating, and reporting changes in cost and up-or-down status of each outgoing communication link to neighbor nodes).

As to claim 11, Ogier teaches the dynamic map of claim 10, wherein the representation of the path between the first network device and each of the third second network devices accounts for obstructions between the first network device and the third network devices (abstract, Ogier discloses...a queuing mechanism that can update information upon resuming interrupted communications between nodes...).

As to claim 12, Ogier teaches the dynamic map of claim 1, further comprising a directional indicator indicative of a direction between a first network device requesting a service on the wireless network and a second network device selected to provide the requested service (column 6, lines 61-67, Ogier discloses Each broadcast link

connecting multiple nodes 18 is mapped into multiple point-to-point bi-bidirectional link...).

As to claim 13, Ogier teaches the dynamic map of claim 1, further comprising a distance indicator indicative of a distance between a first network device requesting a service on the wireless network and a second network device selected to provide the requested service (column 13, lines 58-62, Ogier discloses his sequence number indicates the "position" up to which node i has received updates from the old parent, and indicates to the new parent that it should send only those updates that occurred subsequently (i.e., after that sequence number)).

As to claim 14, Ogier teaches the dynamic map of claim 13, wherein the distance indicator accounts for obstructions in a path between the first network device and the second network device (abstract, Ogier discloses...a queuing mechanism that can update information upon resuming interrupted communications between nodes...).

As to claim 15, Ogier teaches a method of location a service-providing device of a wireless network from a service-requesting device of the wireless network, the method comprising:

generating dynamic mapping information for a plurality of network devices of the wireless network, wherein the plurality of network devices includes the service-providing device and the service-requesting device (column 1-2, lines 65-67 to 1-4, Ogier discloses...Using TCP/IP, the Web browser sends HTTP (Hypertext Transport Protocol) requests to the Web server...; column 43, lines 49-52, Ogier discloses Under some circumstances, numerous clients 12 (e.g., 200), may arrive within range of the subnet 10 simultaneously, each attempting to establish a connection with the server 40; column 5, lines 52-57, Ogier discloses Although represented as a single server 40, other embodiments can have a group of interconnected servers. The data on the server 40 are replicated on one or more of these interconnected servers to provide redundancy in the event that a connection to the server 40 cannot be established);

providing an indication of a distance and a direction to the service-providing device from the service-requesting device using the dynamic mapping information (column 9, lines 1-14, Ogier discloses he internetworking system 2 provides various mobile ad hoc extensions to the Internet 30 that are particularly suited to the dynamic environment of mobile ad hoc networks, such extensions include adaptively using network bandwidth to establish and maintain connections between nodes 18 and server 40; and when forwarding data packets to a destination node, each routing node 14 selects the next node on a route to the destination (i.e. inherently, "direction and distance between a service-requesting device and the service-providing device is indicated")).

As to claim 16, Ogier teaches the method of claim 15, wherein the indication of the distance and the direction to the service-providing device from the service-requesting device accounts for obstructions between the service-requesting device and the service-providing device (abstract, Ogier discloses...a queuing mechanism that can update information upon resuming interrupted communications between nodes...).

As to claim 17, Ogier teaches the method of claim 15, further comprising: providing a representation of a path between the service-requesting device and the service-providing device that accounts for obstructions between the service-requesting device and the service-providing device (abstract, Ogier discloses...a queuing mechanism that can update information upon resuming interrupted communications between nodes...).

As to claim 18, Ogier teaches the method of claim 15, further comprising: updating the indication of the distance and the direction to the service-providing device from the service-requesting device as the service-requesting device approaches the service-providing device (abstract, Ogier discloses... a queuing mechanism that can update information upon resuming interrupted communications between nodes, and dynamic network measurement techniques for adaptively using wireless bandwidth

when establishing and maintaining connections between nodes and a server; column 8, lines 12-14, Ogier discloses Each source node sends a message to a neighbor of that source node, informing the neighbor of the update to that link).

As to claim 19, Ogier teaches the method of claim 15, wherein providing an indication of a distance and a direction to the service-providing device from the service-requesting device sing the dynamic mapping information further comprises:

displaying a map to a user of the service-requesting device, wherein the map comprises representations of the plurality of network devices depicting locations of the network devices relative to the service-requesting device and wherein the plurality of network devices includes the service-requesting device and the service-providing device (figure 1);

highlighting a representation of the service-requesting device to differentiate it from other network devices (column 5-6, lines 58-67 to 1-7, Ogier discloses...Examples of devices that can participate as a node 18 in the subnet 10 include laptop computers, desktop computers, wireless telephones, and personal digital assistants (PDAs), network computers, television sets with a service such as Web TV, client computer systems, server computer systems...); and

highlighting a representation of the service-providing device to differentiate it from other network devices (column 1, lines 65-67, Ogier discloses After establishing an Internet connection, the client user launches the Web browser to communicate with a Web server on the Internet).

As to claim 20, Ogier teaches the method of claim 19, wherein the map further comprises a representation of a path between the service-requesting device and the service-providing device (figure 4).

5. Response to Arguments

Applicant's arguments filed 3/25/05 have been fully considered but they are not persuasive.

(A) Applicant argues that Ogier does not teach or suggest depicting locations of network devices relative to a reference point.

In regards to point (A), examiner respectfully disagrees.

Column 7, lines 17-22, Ogier discloses each mobile node 18 may move from one location to another location within the same subnet 10 or to another subnet 20 (i.e. subnet 10 or 20 can be equated as to "reference point", where locations of "network device" or mobile node 18 are depicted relative to "reference point" 10).

(B) Applicant argues that in Vaid a detected congestion condition results in a bandwidth enforcement policy being applied to information sources to limit the amount of bandwidth allocated thereto. Since there are not TDM call connections established in the network in the packet network of Vaid, it cannot seek to reroute call connections but attends to the congestion problem by limiting the amount of bandwidth emitted by information sources.

In regards to point (B), examiner respectfully disagrees.

Column 9, lines 1-14, Ogier discloses he internetworking system 2 provides various mobile ad hoc extensions to the Internet 30 that are particularly suited to the dynamic environment of mobile ad hoc networks, such extensions include adaptively

using network bandwidth to establish and maintain connections between nodes 18 and server 40; and when forwarding data packets to a destination node, each routing node 14 selects the next node on a route to the destination (i.e. inherently, "direction and distance between a service-requesting device and the service-providing device is indicated").

6. Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to El Hadji M Sall whose telephone number is 571-272-4010. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 571-272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-4010.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

El Hadji Sall
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